

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently Amended) A cell culture system comprising a mixture of mature retinal neuronal cells and cells isolated from a ciliary body, wherein the mature retinal neuronal cells are isolated from retinal tissue.

2. (Cancelled)

3. (Currently Amended) The cell culture system according to claim 2-1 wherein the mature retinal neuronal cells comprise ~~are selected from the group consisting of~~ a bipolar cells, a horizontal cells, an amacrine cells, a ganglion cells, and a photoreceptor cells.

4. – 5. (Cancelled)

6. (Currently Amended) A retinal cell culture system comprising a mixture of mature retinal neuronal cells and cells isolated from a ciliary body, wherein the mature retinal neuronal cells comprise ~~are selected from the group consisting of~~ bipolar cells, horizontal cells, amacrine cells, ganglion cells, and photoreceptor cells, and wherein the mature retinal cells are isolated from retinal tissue.

7. (Currently Amended) A retinal cell culture system comprising a mixture of (i) mature retinal neuronal cells; (ii) cells isolated from a ciliary body; and (iii) embryonic retinal cells, wherein the mature retinal neuronal cells are isolated from retinal tissue.

8. (Original) The cell culture system of claim 7 wherein the embryonic retinal cells comprise retinal stem cells.

9. (Original) The cell culture system of claim 7 wherein the embryonic retinal cells comprise embryonic retinal progenitor cells.

10. (Currently Amended) The cell culture system of claim 7 wherein the mature retinal neuronal cells comprise ~~are selected from the group consisting of~~ bipolar cells, horizontal cells, amacrine cells, ganglion cells, and photoreceptor cells.

11. (Currently Amended) A method for producing a retinal cell culture system comprising co-culturing a mature retinal neuronal cell and a cell isolated from a ciliary body, wherein the mature retinal neuronal cell is isolated from retinal tissue.

12. (Currently Amended) A method for enhancing survival of a mature retinal neuronal cell *in vitro* comprising co-culturing a mature retinal neuronal cell and a cell isolated from a ciliary body, wherein the mature retinal neuronal cell is isolated from retinal tissue.

13. (Currently Amended) The method according to either claim 11 or claim 12 comprising co-culturing (i) a mature retinal neuronal cell; (ii) a cell isolated from a ciliary body; and (iii) an embryonic retinal cell, wherein the mature retinal neuronal cell is isolated from retinal tissue.

14. (Currently Amended) The method according to claim 13 wherein the embryonic retinal cell is selected from ~~the group consisting of~~ a retinal stem cell and an embryonic retinal progenitor cell.

15. (Withdrawn and Currently Amended) A method for identifying a bioactive agent that is capable of enhancing survival of a mature retinal neuronal cell,

comprising (i) contacting a candidate agent with a cell culture system according to any one of claims 1, 3, and 6-10~~1-10~~, under conditions and for a time sufficient to permit interaction between a mature retinal neuronal cell of the cell culture system and the candidate agent; and (ii) comparing survival of a mature retinal neuronal cell of the cell culture system in the presence of the candidate agent with survival of a mature retinal neuronal cell of the cell culture system in the absence of the candidate agent, and therefrom identifying a bioactive agent that is capable of enhancing survival of the mature retinal neuronal cell.

16. (Withdrawn and Currently Amended) A method for identifying a bioactive agent that is capable of inhibiting neurodegeneration of a mature retinal neuronal cell comprising (i) contacting a bioactive agent with a cell culture system according to any one of claims 1, 3, and 6-10~~1-10~~, under conditions and for a time sufficient to permit interaction between a mature retinal neuronal cell of the cell culture system and the candidate agent; and (ii) comparing structure of a mature retinal neuronal cell of the cell culture system in the presence of the bioactive agent with structure of a mature retinal neuronal cell of the cell culture system in the absence of the bioactive agent, and therefrom identifying a bioactive agent that is capable of inhibiting neurodegeneration of the mature retinal neuronal cell.

17. (Withdrawn and Currently Amended) A method for identifying a bioactive agent that is capable of treating a retinal disease comprising contacting a bioactive agent with a cell culture system according to any one of claims 1, 3, and 6-10~~1-10~~, under conditions and for a time sufficient to permit interaction between a mature retinal neuronal cell of the cell culture system and the candidate agent; and (ii) comparing neurodegeneration of a mature retinal neuronal cell of the cell culture system in the presence of the bioactive agent with neurodegeneration of a mature retinal neuronal cell of the cell culture system in the absence of the bioactive agent, and therefrom identifying a bioactive agent that is capable of treating a retinal disease.

18. (Cancelled)

19. (Withdrawn) The method of claim 17 wherein the retinal disease is selected from the group consisting of macular degeneration, glaucoma, diabetic retinopathy, retinal detachment, retinal blood vessel occlusion, retinitis pigmentosa, and a retinal disorder associated with Alzheimer's disease.

20. – 21. (Cancelled)